

**REMARKS**

Claims 1 - 15 remain pending in the present application. No amendments were made. Reconsideration of the claims is respectfully requested in view of the following discussion.

**The Drawings and Rejections Under 35 U.S.C. §112, Second Paragraph:**

The drawings were objected to for failing to depict a fourth impurity region. This is related to the rejections under 35 U.S.C. §112, second paragraph. Claims 1 - 13 were rejected under 35 U.S.C. §112, second paragraph for alleged ambiguity regarding whether there are three or four impurity regions, and if so, how the regions are formed. The Examiner's response to Applicant's arguments set forth on page 4 of the Office Action also repeats this issue. The Examiner questioned how one of ordinary skill in the art would know that the second impurity region is 4b and 4c. The Examiner also stated that "the claims and the way Applicant describes the impurity regions is that there are four separate impurity regions and this limitation is not shown in the drawings or the specification."

It is submitted that there is no ambiguity with regard to the claimed impurity regions and there is no need to correct the drawings. As explained in the November 18, 2002 Amendment, the claimed "second conductivity type first impurity region" reads on, for example, the n-type drain region 4a. The "first conductivity type second impurity region" reads on, for example, the p-type combined region of 4b and 4c. This is recited in claim 3. The specification describes this correspondence by identifying the drain region 4 formed in the diode structure as having an n-type

drain region, which constitutes one conductivity type impurity region, and p-type drain regions (4b and 4c) which is a second conductivity impurity region. There is no ambiguity in this regard.

Claim 4 further defines the second impurity region as “*including*” third and fourth impurity regions. Therefore, claim 4 recites a subdivision of the second impurity region as including further components, *i.e.*, third and fourth impurity regions. Note also that the third and fourth impurity regions are of the **same** “first conductivity type” as defined for the second impurity region. This would be consistent with the logical subdivision of the second impurity region being defined in claim 4. Looking at both the specification and Figure 1, for example, the p-type (“first conductivity type”) regions are identified by 4b and 4c. There is no ambiguity nor deficiency in the drawings or claims in identifying subcomponents of the claimed second impurity region as including the “first conductivity type” (*e.g.*, p-type) combined regions of 4b and 4c.

For these reasons, the objections to the drawings and the rejections under 35 U.S.C. §112, second paragraph should be withdrawn.

**Rejections Under 35 U.S.C. §102:**

Claims 1 and 14 - 15 were rejected under 35 U.S.C. §102 over **Choi et al.** (U.S.P. 6,330,187). Claims 2 - 13 were not rejected over the prior art.

It is submitted that nothing in the cited art teaches or suggests all the features in the present claimed invention. For instance, independent claims 1 and 14 recite a source/drain region having a diode structure. The Examiner referred to the source region 320/322 of **Choi** as constituting the claimed source/drain region having a diode structure. However, **Choi** does not disclose 320/322 as

being a *diode structure*. **Choi** describes 320/322 as being a highly doped region 320 and a lightly doped region 322. There is no teaching or suggestion that the doping at different *concentration levels* pertain to different *conductivity types*. There is no teaching or suggestion in **Choi** that sources 320/322 must have an n-type/p-type doping combination to constitute the present claimed diode structure. For at least these reasons, the present claimed invention patentably distinguishes over the prior

### **Summary**

It is submitted that nothing in the prior art, either alone or in combination, teaches or suggests all the features recited in the present claimed invention. Therefore, pending claims 1 - 15 are in condition for allowance. An early Notice of Allowance is respectfully requested.

### **Request for an Examiner's Interview**

An Examiner's Interview is hereby specifically requested to discuss the matters set forth above. The Examiner is respectfully requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for at least a telephonic interview to expedite the disposition of this case.

Request for Reconsideration

U.S. Patent Application Serial No. 09/899,267

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



John P. Kong  
Attorney for Applicant  
Reg. No. 40,054

JPK/kal  
Atty. Docket No. **010835**  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
(202) 659-2930



23850

PATENT TRADEMARK OFFICE